

We claim:

1. A suspension concentrate comprising a herbicidally effective amount of  
5 mesotrione, as well as agrochemically acceptable salts thereof, having an average  
particle size of less than 1 micron and a dispersing agent.
2. The suspension concentrate according to claim 1 wherein the mesotrione, or  
10 agriculturally acceptable salt thereof, has an average particle size of less than 800  
nanometers.
3. The suspension concentrate according to claim 1 wherein the mesotrione  
comprises a metal chelate of mesotrione.
- 15 4. The suspension concentrate according to claim 3 wherein the metal chelate of  
mesotrione comprises at least one member selected from the group consisting of  
copper or zinc chelates of mesotrione.
5. The suspension concentrate according to claim 1 further comprising at least  
20 one additional solid, water-insoluble active ingredient.
6. The suspension concentrate according to claim 1 wherein the at least one  
additional solid, water-insoluble active ingredient comprises at least one member  
selected from the group consisting of triazine herbicides, isoxazole herbicides and  
25 sulfonylurea herbicides.
7. The suspension concentrate according to claim 6 wherein the at least one  
additional solid, water-insoluble active ingredient comprises a triazine herbicide.
- 30 8. The suspension concentrate according to claim 1 further comprising a water-  
soluble active ingredient dissolved in the aqueous phase.

9. The suspension concentrate according to claim 8 wherein the water-soluble active ingredient comprises at least one member selected from the group consisting of glyphosate, glufosinate and agriculturally acceptable salts thereof.
- 5 10. A pesticidal composition obtained by diluting a suspension concentrate according to claim 1 in water.
11. The pesticidal composition of claim 10 further comprising at least one member selected from the group consisting of co-herbicides, fungicides, insecticides, acaricides  
10 and nematicides.
12. A method for controlling undesired plant growth in crops of useful plants, said method comprising treating the useful plants, their seeds or seedlings or the crop area thereof with a pesticidal composition according to claim 10.
- 15 13. The method of claim 12 wherein the pesticidal composition is applied pre- or post-emergent.
14. The method of claim 12 wherein the crop of useful plants is maize.
- 20 15. A suspoemulsion formulation comprising
- (A) a continuous aqueous phase;
- (B) (i) a dispersed emulsion phase comprising at least one liquid, water-insoluble active ingredient;
- 25 (ii) an emulsifier in an amount sufficient to emulsify the liquid, water-insoluble active ingredient; and
- (C) (i) a herbicidally effective amount of mesotrione having a particle size of less than 1 micron as a dispersed solid phase;
- (iv) a dispersing agent in an amount sufficient to disperse the mesotrione as  
30 well as any other solid technical materials present in the formulation;

wherein the solid phase is dispersed in said aqueous and/or emulsion phase.

16. The suspoemulsion formulation according to claim 15 wherein the mesotrione, or agriculturally acceptable salt thereof, has an average particle size of less than 800  
5 nanometers.
17. The suspoemulsion formulation according to claim 15 wherein the mesotrione comprises a metal chelate of mesotrione.
- 10 18. The suspoemulsion formulation according to claim 17 wherein the metal chelate of mesotrione comprises at least one member selected from the group consisting of copper or zinc chelates of mesotrione.
- 15 19. The suspoemulsion formulation according to claim 15 wherein the liquid, water-insoluble active ingredient comprises at least one member selected from the group consisting of acetamide herbicides and safeners.
- 20 20. The suspoemulsion formulation according to claim 19 wherein the liquid, water-insoluble active ingredient comprises acetamide herbicides.
21. The suspoemulsion formulation according to claim 20 wherein the acetamide comprises mixtures of metolachlor (S) and (R) isomers wherein the ratio of (S)-2-chloro-*N*-(2-ethyl-6-methylphenyl)-*N*-(2-methoxy-1-methylethyl)acetamide to (R)-2-chloro-*N*-(2-ethyl-6-methylphenyl)-*N*-(2-methoxy-1-methylethyl)acetamide is in the range of from  
25 50-100% to 50-0%.
22. The suspoemulsion formulation according to claim 15 further comprising at least one safener.

23. The suspoemulsion formulation according to claim 22 wherein the safener comprises at least one member selected from the group consisting of benoxacor and dichlormid.
- 5 24. The suspoemulsion formulation according to claim 15 further comprising at least one additional solid, water-insoluble active ingredient.
25. The suspoemulsion formulation according to claim 24 wherein the at least one additional solid, water-insoluble active ingredient comprises at least one member selected from the group consisting of triazine herbicides, isoxazole herbicides and sulfonylurea  
10 herbicides.
26. The suspoemulsion formulation according to claim 15 further comprising a water-soluble active ingredient dissolved in the aqueous phase.
27. The suspoemulsion formulation according to claim 26 wherein the water-soluble active ingredient comprises at least one member selected from the group consisting of  
15 glyphosate, glufosinate and agriculturally acceptable salts thereof.
28. A pesticidal composition obtained by diluting a suspoemulsion formulation according to claim 15 in water.
- 20 29. The pesticidal composition of claim 28 further comprising at least one member selected from the group consisting of co-herbicides, fungicides, insecticides, acaricides and nematocides.
- 25 30. A method for controlling undesired plant growth in crops of useful plants, said method comprising treating the useful plants, their seeds or seedlings or the crop area thereof with a pesticidal composition according to claim 28.

31. The method of claim 30 wherein the pesticidal composition is applied pre- or post-emergent.

32. The method of claim 30 wherein the crop of useful plants is maize.

5